Making Talk Cheap:

Generative AI and Labor Market Signaling*

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Abstract

Large language models (LLMs) like ChatGPT have significantly lowered the cost of producing written content. This paper studies how LLMs, through lowering writing costs, disrupt markets that traditionally relied on writing as a costly signal of quality (e.g., job applications, college essays). Using data from `Freelancer.com`, a major digital labor platform, we explore the effects of LLMs' disruption of labor market signaling on equilibrium market outcomes. We develop a novel LLM-based measure to quantify the extent to which an application is tailored to a given job posting. Taking the measure to the data, we find that employers have a high willingness to pay for workers with more customized applications in the period before LLMs are introduced, but not after. To isolate and quantify the effect of LLMs' disruption of signaling on equilibrium outcomes, we develop and estimate a structural model of labor market signaling, in which workers invest costly effort to produce noisy signals that predict their ability in equilibrium. We use the estimated model to simulate a counterfactual equilibrium in which LLMs render written applications useless in signaling workers' ability. Without costly signaling, employers are less able to identify high-ability workers, causing the market to become significantly less meritocratic: compared to the pre-LLM equilibrium, workers in the top quintile of the ability distribution are hired 19% less often, workers in the bottom quintile are hired 14% more often.

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This paper is currently under a disclosure review process with `Freelancer.com` and is not yet publicly available. When the paper has been cleared for disclosure (soon after November 3rd), it will be available at the above link. Please contact Jesse Silbert for any inquiries at jesseas@princeton.edu.